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Pearson

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[54] **TYPING APPARATUS**

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[52] **U.S. Cl.** **197/2**
[51] **Int. Cl.** **B41j 3/38**
[58] **Field of Search** 197/2, 3, 124, 148

[56] **References Cited**

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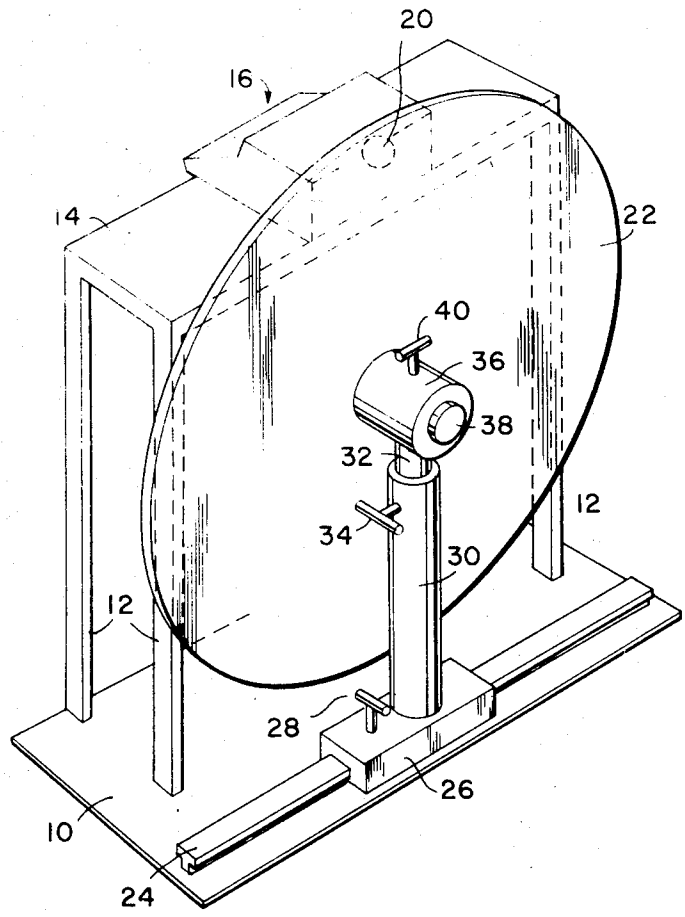
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[57] **ABSTRACT**

Typing apparatus for drawings or the like including a circular platen upon which the drawing may be mounted and which is, itself, mounted for translational motion in two mutually-perpendicular directions and about its own central axis, together with typing means mounted adjacent the platen including a typing element mounted to move perpendicularly relative to the platen to effect typing of selected characters on a mounted drawing.

2 Claims, 2 Drawing Figures



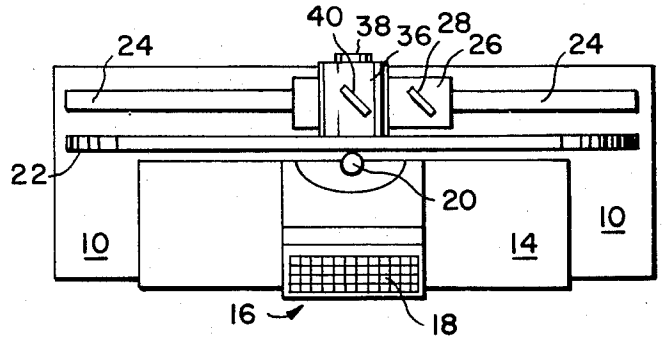

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14
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FIG. 1.

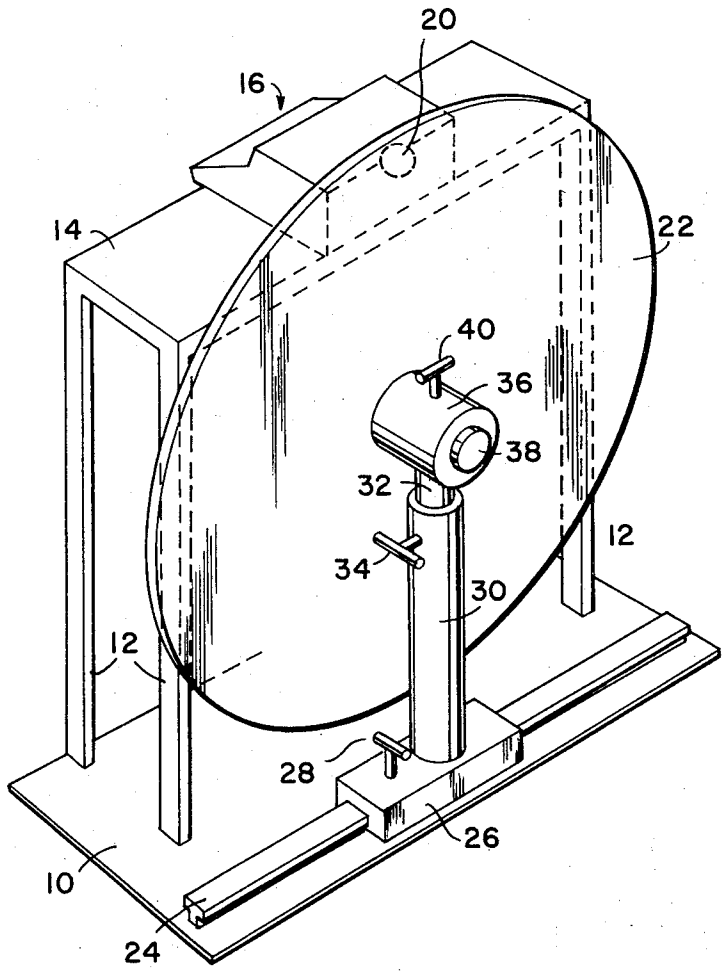

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26
10
24

FIG. 2.

TYPING APPARATUS

The present invention relates generally to typing apparatus and more particularly to apparatus for typing desired characters on drawings, maps, or the like where a variety of character size, placement, and disposition is necessitated.

Ordinary typewriters function admirably for ordinary typing purposes wherein a substantially cylindrical platen supports the paper for translational motion in each of two directions in a predetermined fashion under the control of the typist. It may even be mentioned that quite recently a newer form of typewriter known as the IBM "Selectric" has been introduced wherein the platen effects translational motion of the paper mounted thereon in only one direction and the typing element itself, generally of spherical configuration, is arranged to move laterally to thus avoid the necessity for translational motion of the platen in one direction. However, none of the standard typewriters is applicable to do the typing of selected characters on certain types of media such as drawings, maps or the like wherein the size of the drawing, for example, is too great for accommodation within a conventional typewriter or, more significantly it is necessary that the characters be applied at various angles. For example, on an engineering drawing, it is frequently necessary to apply the conventional characters in rectangular relationship and frequently at various intermediate angles such as might be encountered on an isometric drawing. As another example, it will be recognized that in the preparation of street maps, the names of the streets must be applied to the map at various angular dispositions. Since normal typewriters are thus ineffective for these purposes, the application of desired characters to media of the type mentioned has been predominately a manual operation which is obviously both time-consuming and expensive.

Accordingly, it is the general object of the present invention to provide a typing apparatus for drawings, maps, or the like which enables the application of selected characters thereto at any desired position and angle.

More particularly, it is a feature of the invention to provide a typing apparatus including a platen of substantially flat disposition and which can be of relatively large size to enable the mounting thereon of a large drawing or other media to which typed material is to be applied.

More particularly, it is a feature of the invention to provide such a platen which is mounted for adjustment translationally in each of two directions and also rotationally, enabling the drawing or other material applied to the platen to be positioned appropriately relative to a typing element.

More specifically, in accordance with a preferred aspect of the invention, it is a feature to provide a typing apparatus utilizing an enlarged, flat platen of the type mentioned hereinabove in combination with a typing element of the variety found on the IBM "Selectric" typewriter which itself is arranged for translational motion in one direction.

It is yet another feature of the invention of practical significance to provide a typing apparatus for drawings, maps, or the like which adapts itself readily for use with existing typing mechanisms such as, for example, the IBM "Selectric" mechanism mentioned hereinabove.

These as well as other objects and features of the invention will become more apparent from a perusal of the following description of the exemplary apparatus illustrated in the accompanying drawing wherein:

FIG. **1** is a top plan view of a typing apparatus embodying the present invention, and

FIG. **2** is a rear perspective view thereof.

As shown in the drawings, a horizontal base member **10** carries four vertical standards **12** which support, at their upper ends, a typing platform or table **14** to which is secured a typing mechanism generally indicated at **16** at a height convenient for an operator.

Preferably, this typing mechanism **16** takes the form of a slightly modified IBM "Selectric" typewriter including a conventional keyboard **18** arranged to actuate appropriate motion of a spherical typing element **20** which, as is well known, is arranged for translational movement laterally across the typewriter frame and is arranged to rotate to various positions so that a selected character, letter, or number is brought into a position so that subsequent motion of the sphere forwardly relative to the typist or operator brings such character into contact through a carbon ribbon or the like with the paper to which the chosen character is to be applied. Accordingly, a substantially linear forward movement of the typing element **20** is achieved upon the depression of an appropriate key on the keyboard **18.** The mechanism **16** as generally described is well known and in and of itself forms no part of the present invention. Accordingly, a detailed description of its structure and operation will not be presented.

The typing mechanism **16,** as generally described, is, in accordance with the present invention, not utilized with the conventional cylindrical platen but instead is positioned adjacent a substantially circular flat platen **22** having relatively large over-all dimensions as clearly illustrated in FIG. **2.** This platen **22** is adapted to mount a drawing or map of rather large size in substantially a vertical plane, as illustrated, which vertical plane in turn, is substantially perpendicular to the previously described forward motion of the typing element **20** and at a distance spaced therefrom so that appropriate typing of characters on such drawing or map can be effectively achieved.

The flat, circular platen **22** is mounted, in accordance with the present invention, for translational motion in each of two directions which are mutually perpendicular to one another and are also each perpendicular to the direction of motion of the typing element **20.** Additionally, the entire platen **22** can be rotated about its center axis which extends substantially parallel to the direction of motion of the typing element **20.** Thus, in general terms, characters can be typed onto the mounted drawing at any position thereon and at any desired angle.

It will be apparent that various structural arrangements can be used to provide the desired support. As shown, such support preferably includes an elongated horizontal tongue **24** mounted on the previously described base member **10.** Such tongue **24** is received within a groove on the under surface of a slidable carriage **26** and a clamp **28** on the carriage **26** can be tightened to hold it in a desired adjusted position longitudinally of the horizontal tongue.

A hollow pedestal **30** projects substantially vertically upward from the horizontally-movable carriage **26** and telescopically receives a generally cylindrical rod **32**

whose disposition within the pedestal is in turn releasably fixed by a similar clamp **34.** At the upper extremity of the rod a cylindrical, bearing **36** supports for rotation about a substantially horizontal axis a shaft **38** which is secured at its forward extremity to the center of the circular platen **22** itself. Again, a clamp **40** projects through the bearing **36** for releasable engagement with the shaft **38** to hold such shaft and the platen **22** mounted thereon in any desired rotational position. Thus, it will be seen that the platen **22** can be rotated about its central axis which is, in turn, substantially horizontal and in parallelism with the direction of motion with the previously described typing element **20.** By appropriate motion of the carriage **26,** horizontal, translational motion of the platen **22** can be achieved and by extension or retraction of the rod **32** within the pedestal **30,** vertical translational motion of the platen **22** is provided.

Although the simple, mechanical adjustments of the translational or rotational position of the platen **22** are achieved manually by the described structure, it will be readily apparent that hydraulic cylinders or other mechanical or electrical arrangements can be utilized as power assists for the operator which ultimately could provide, for example, a push button control to achieve any desired translational or rotational disposition of the platen.

The operation of the arrangement is substantially obvious. After a drawing has been placed on the platen **22,** such platen is appropriately adjusted so that a desired area thereof is presented forwardly of the typing element **20** which latter is then actuated in a conventional fashion to apply the selected characters to that area or portion of the drawing. It is to be particularly observed that the use of the IBM "Selectric" mechanism which provides for translational motion of the typing element **20** in one direction does not require any adjustment of the platen during the application, for example, of conventional characters to one portion of the drawing. On the other hand, if a remote portion of the drawing requires the application of typewritten material thereto, the carriage **26** can be moved or alternatively, the rod **32** can be extended or retracted within its mounting pedestal **30.** If, in turn, typewritten material is to be applied at a different angle to the drawing, the rotational position of the platen **22** is appropriately adjusted. If desired, conventional indicia (not shown) can be associated with the platen to indicate its translational or rotational disposition, thus enabling the operator, for example, to readily ascertain that a desired 30° angular disposition has been attained for placement of selected characters on an isometric drawing.

It will be apparent that many modifications and/or alterations can be made in the specific structure as described without departing from the spirit of the invention and, as a consequence, the foregoing description of one embodiment is to be considered as purely exemplary and not in a limiting sense. The actual scope of the invention is to be indicated only by reference to the appended claims.

What is claimed is:

1. A typing apparatus for drawings or the like which comprises

a substantially flat platen on which a drawing can be mounted,

typing means including a typing element movable in a predetermined direction,

means mounting said platen for translational motion in two mutually-perpendicular directions, each perpendicular to the direction of motion of said typing element, and for rotational movement about an axis parallel to the direction of motion of said typing element, and

a common base supporting said typing means adjacent said platen so that said typing element moves toward said platen to effect typing of characters on the mounted drawing,

said platen mounting means including

a carriage mounted for slidable adjustment on said base,

a telescopic pedestal extending from said carriage in a substantially vertical direction, and

a shaft mounted at the top of said pedestal for rotation about a substantially horizontal axis and attached to said platen.

2. A typing apparatus according to claim **1** wherein

said platen is of circular outline and is centrally secured to said shaft for rotation therewith.

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